

Abstract: While rigidity is somewhat rare in the case of Z -actions, it is much more common for Z^k actions for $k \geq 2$. I will discuss some of the standard rigidity results for elliptic and partially hyperbolic actions before turning attention to the parabolic case. In particular, I will state a theorem and introduce some techniques used by Damjanovich, Fayad, and Sarpykina (2023) before showing how similar techniques can be used to study the regularity of solutions to the cohomological equation over parabolic actions. Finally, I will demonstrate how this allows us to build an example of a high rank system that is stable but not tame. This is joint work with Bassam Fayad.